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Abstract Title:

**Coherent evaluation of aerosol data products from multiple satellite
sensors**

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ABSTRACT

Aerosol retrieval from satellite has practically become routine, especially during the last decade. However, there is often disagreement between similar aerosol parameters retrieved from different sensors, thereby leaving users confused as to which sensors to trust for answering important science questions about the distribution, properties, and impacts of aerosols. As long as there is no consensus, and the inconsistencies are not well characterized and understood, there will be no way of developing reliable model inputs and climate data records from satellite aerosol measurements. Fortunately, the Aerosol Robotic Network (AERONET) is providing well-calibrated globally representative ground-based aerosol measurements corresponding to the satellite-retrieved products. Through a recently developed web-based Multi-sensor Aerosol Products Sampling System (MAPSS), we are utilizing the advantages offered by collocated AERONET and satellite products to characterize and evaluate aerosol retrieval from multiple sensors. Indeed, MAPSS and its companion statistical tool AeroStat are facilitating detailed comparative uncertainty analysis of satellite aerosol measurements from Terra-MODIS, Aqua-MODIS, Terra-MISR, Aura-OMI, Parasol-POLDER, and Calipso-CALIOP. In this presentation, we will describe the strategy of the MAPSS system, its potential advantages for the aerosol community, and the preliminary results of an integrated comparative uncertainty analysis of aerosol products from multiple satellite sensors.